

DERWENT-ACC-NO: 1998-010056  
DERWENT-WEEK: 200045  
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TITLE: Manufacturing compound structure by friction welding - using relatively rotatable joining component which has higher melting point than component which it is to penetrate

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PATENT-ASSIGNEE: EMHART INC [EMHA]

PRIORITY-DATA: 1996DE-1020814 (May 23, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
DE 19620814 A1	November 27, 1997	N/A
018	B23K 020/12	
JP 2000510768	August 22, 2000	N/A
030	B23K 020/12	
W	November 27, 1997	E
036	B23K 020/12	
WO 9744154 A1	April 14, 1999	E
000	B23K 020/12	
EP 907455 A1		

DESIGNATED-STATES: JP US AT BE CH DE DK ES FI FR GB GR IE  
IT LU MC NL PT SE DE F  
R GB IT

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
DE 19620814A1	N/A	1996DE-1020814
May 23, 1996		
JP2000510768W	N/A	1997JP-0541913
May 9, 1997		
JP2000510768W	N/A	1997WO-IB00529
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JP2000510768W	Based on	WO 9744154
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WO 9744154A1	N/A	1997WO-IB00529
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EP 907455A1	N/A	1997EP-0919594
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EP 907455A1	N/A	1997WO-IB00529
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INT-CL (IPC): B23K020/12; B23K103:10 ; B23K103:12 ;  
B32B015/01

ABSTRACTED-PUB-NO: DE 19620814A

BASIC-ABSTRACT: The production of a compound structure, particularly consisting of three components involves pressing a metal underlay (2) and at least one metal component (1) with large surface area are pressed onto one another. A joining component (3), with a tapering end section and a higher melting point than the component (1), and the structure (4) are rotated relative to one another (while pressed against one another) until the component (1) is penetrated by the component (3) and a melt (7) is formed. A welded joint (9) is produced between the underlay (2) and the component (1).

Also claimed is an apparatus for implementation of the method which includes clamping, drive, switching and control systems.

ADVANTAGE - Compound structures with improved strength characteristics are obtained using simple equipment.

CHOSEN-DRAWING: Dwg.3/16

TITLE-TERMS:

MANUFACTURE COMPOUND STRUCTURE FRICTION WELD RELATIVELY ROTATING JOIN COMPONENT  
HIGH MELT POINT COMPONENT PENETRATE

DERWENT-CLASS: M23 P55 P73

CPI-CODES: M23-E01;

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CPI Secondary Accession Numbers: C1998-003745

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